

K. Valtchev

Vaginal delineation and occluding device

U.S.S.N. 10/715,104

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AMENDMENT OF THE ORIGINAL CLAIMS

I CLAIM:

1. ~~(Amended)~~ (Withdrawn-Currently Amended). A method of constructing a vaginal delineation and occluding device comprising a solid ring, ~~a plurality of four legs~~, and a base for ~~securing inserting and locking~~ said apparatus to a uterine mobilizer, and an elastic diaphragm; said method comprising:

(a) operable, pivotally mounting the solid ring to the ~~plurality of proximal ends of the~~ four legs; and

(b) Operably, securely affixing the distal ends of the legs to the base.

2. ~~(Amended)~~ (Withdrawn-Currently Amended). A method of claim 1 wherein ~~at least some of the plurality~~ all of the four legs are telescopic and comprise a distal arm, an outer telescoping arm, and inner telescoping arm, the method additionally comprising:

(a) operably, securely affixing the distal arm to the base;

(b) operably, pivotally affixing the proximal end of the outer telescopic arm to the solid ring;

(c) engaging a proximal end of the inner telescopic arm into the outer telescoping arm; and

(d) operably, pivotally attaching a distal end of the inner telescoping arm a to the Proximal end of the distal arm.

3. ~~(Amended)~~ (Withdrawn-Currently Amended). The method of claim 2, ~~each of the at least some of the plurality of wherein the four telescopic~~ legs also comprising a spring tending to separate the base from the solid ring, the method additionally comprising engaging said spring between the distal arm and the outer telescopic arm and forces them apart.

4. ~~(Withdrawn)~~ the method of claim 2 wherein all the plurality of legs comprising a distal arm, an outer telescoping arm, and an inner telescoping arm.

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5. ~~(Amended)~~ **"Withdrawn-Currently Amended"**. A method of constructing a vaginal delineator and occluder comprising a solid ring, a base for inserting and locking securing said apparatus to a uterine mobilizer, and a cup to obstruct a vagina to prevent leakage of carbon dioxide from a peritoneal cavity, said method comprising:

- (a) operably, pivotally mounting the solid ring to a rim of the cup; and
- (b) operably, ~~rigidly mounting~~ permanently affixing the base to the cup.

6. ~~(Amended)~~ **"Withdrawn-Currently Amended"** The method of claim 5 wherein the axis of the pivotally mounted solid ring is circular and the ~~pivotal mounting has an axis~~ through a the diameter of the ring.

7. ~~(As Originally Filed)~~ **(Withdrawn)**. The method of claim 5 wherein the solid ring pivots on its pivotal mounting about 15°.

8. ~~(As Originally filed)~~ **(Withdrawn)**. The method of claim 7 additionally comprising the steps of:

- (a) Sloping a rim of the cup is about 15° each way from a diameter to allow clearance  
For the ring to pivot; and
- (b) operably, pivotally attaching said ring at an apex of the rim.

9. ~~(Amended)~~ **(Withdrawn-Currently Amended)**. The method of claim 1 wherein the vaginal delineator additionally comprises a diaphragm of elastic material used to obstruct a vagina and does not allow flow in any direction to prevent leakage of carbon dioxide from a peritoneal cavity, the method additionally comprising the steps of:

- (a) Constructing the diaphragm with a thicker rim ~~periphery~~ than a ~~middle~~ membrane;
- (b) Constructing the diaphragm with a thicker ~~inner~~ annulus than the ~~middle~~ membrane; and
- (c) Providing a hole in a center of the diaphragm for receiving the enlarged portion of the base of the vaginal delineator and occluder.

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10. ~~(As Originally filed)~~ **( Withdrawn )**. The method of claim 9 wherein a plurality of sizes of the diaphragm of elastic material is available.

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11. ~~(Amended)~~ **(Currently Amended)**. An apparatus for vaginal delineation and occlusion, said apparatus being inserted and locked into a uterine mobilizer, the apparatus comprising:

- (a) a solid ring;
- (b) four ~~a plurality of~~ legs to which the ring is operably, pivotally mounted; and
- (c) a base for ~~securing~~ insertion and locking said apparatus ~~to~~ into the uterine mobilizer; and
- (d) four legs being operably securely affixed to the base.

12. ~~(Amended)~~ **(Currently Amended)**. The apparatus of claim 3 additionally comprising a plurality of four telescopic spring loaded legs, the length of said legs being variable to permit the solid ring to come closer to the base and can tilt to accommodate various angles of a fornix.

13. **(As Originally filed)** The apparatus of claim 12 wherein the variable-length legs comprise:

- (a) a distal arm, securely, operably affixed to the base;
- (b) an outer telescoping arm, pivotally affixed to the solid ring; and
- (c) an inner telescoping arm connecting the distal arm and the outer telescoping arm, the inner telescoping arm sliding into the outer telescoping arm.

14. **( As Originally filed)** The apparatus of claim 13 additionally comprising a spring tending to force the distal arm and the outer telescoping arm apart.

15. ~~(As Originally filed)~~ **(Withdrawn)**. An apparatus for vaginal delineation and occlusion, said apparatus being constructed to be inserted into a uterine mobilizer, the apparatus comprising:

- (a) a cup to obstruct a vagina to prevent leakage of carbon dioxide from a peritoneal cavity;
- (b) a solid ring operably, pivotally mounted to the cup; and
- (c) a base for securing said apparatus to the uterine mobilizer, said base being

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operably rigidly mounted to the cup.

16. ~~(As Originally filed)~~ **(Withdrawn)**. The apparatus of claim 15 wherein the solid ring is substantially circular, the apparatus additionally comprising a pivotal axis through a diameter of the solid ring at which solid ring is operably, pivotally mounted to the cup.

17. ~~(As Originally filed)~~ **(Withdrawn)**. The apparatus of claim 15 additionally comprising clearance to permit the solid ring to pivot about 15°.

18. ~~(As Originally Filed)~~ **(Withdrawn)**. The apparatus of claim 17 additionally comprising:

- (a) a sloped rim of the cup, said slope being about 15° each way from a diameter to allow clearance for the ring to pivot; and
- (b) an attachment pin, having an axis at an apex of the cup's rim to which the ring is operably pivotally attached.

19. ~~(Amended)~~ **(Currently Amended)**. An elastic diaphragm for use with a vaginal delineation and occlusion device said diaphragm comprising:

- (a) a hole in a center of the diaphragm for insertion into the enlarged portion of ~~engaging a base of the vaginal delineation and occlusion device;~~
- (b) a ~~first~~ annulus surrounding said hole;
- (c) a membrane ~~between of annulus shape bordering an outer circumference of~~ the first annulus and the rim, said membrane being of thinner material than the ~~first~~ annulus and the rim; and
- (d) ~~an outer~~ a rim periphery being of thicker material than the membrane.

20. ~~(As Originally filed)~~ The elastic diaphragm of claim 19 said diaphragm is made of silicone.

21. ~~(New claim)~~ **(Withdrawn)**. The method of claim 1 wherein two of the four legs are solid and remaining two legs are telescopic, the method additionally comprising:

- (a) operably, securely affixing the distal end of the solid legs to the base;
- (b) operably, pivotally attaching the proximal end of the solid leg to the solid ring
- (c) operably, securely affixing the distal arm of the telescopic leg to the base;

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- (d) operably, pivotally attaching the outer telescopic arm to the solid ring;
- (e) operably, pivotally attaching the distal end of the inner telescopic arm to the proximal end of the distal arm; and
- (f) engaging a proximal end of the inner telescopic arm into the outer telescopic arm.

**22. (~~New claim~~) (Withdrawn).** The method of claim 2 wherein the four telescopic legs also comprising springs tending to separate the base from the solid ring, a method additionally comprising engaging said spring between the proximal end of the inner telescopic arm and the proximal end of the cavity of the outer telescopic arm.

**23. (~~New claim~~) (Withdrawn).** The method of claim 9 wherein the elastic diaphragm is held securely between the base of the vaginal delineation and occluding device and the head of the mobilizer, preventing flow in any direction.

**24. (~~New claim~~) (Withdrawn).** The method of claim 12 wherein the solid ring is pivotally affixed to four spring loaded telescopic legs allowing the solid ring to tilt to about 20° in both directions, from a plane perpendicular to the longitudinal axis of the base.

**25. (~~New claim~~) (Withdrawn).** The method of claim 21 wherein the solid ring is pivotally affixed to the two solid legs, and the two telescopic legs, allowing the solid ring to tilt about 20° in both directions, from a plane perpendicular to a longitudinal axis of the base.

**26. (~~New claim~~) (Withdrawn).** The method of claim 24 wherein the solid ring is pivotally affixed to four spring loaded telescopic legs allowing the solid ring to come closer to the base when a pressure is applied to the solid ring.